ALICIA
BY GEORGE DONEHOWER

PHOTO FRA

PHOTO ERA

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The frost is on the hills, and summer's work is done;
I fain would think that gentle Nature grieves
O'er all the lessening splendors of the setting sun,
The fragile glory of the dropping leaves.

—Rand.

The Photographic Society of Philadelphia

GEORGE DONEHOWER, SECRETARY

ORGANIZED in November, 1862, this society enjoys the distinction of being the oldest institution of its kind in the United States.

Starting in a very humble way, and when the path of the photographer was beset with the greatest difficulties, it has gone forward in its career of usefulness, keeping pace with the advance in photographic art, and witnessing many changes in the past forty years.

It has seen the old, cumbersome, and uncertain photographic machinery, with its wet plates and other inconvenient methods, give place to the compact outfit of to-day, with dry plates and films and unequaled modern lenses.

It numbered among its early members many of the well-known pioneers in photography, some of whom are still members of the society.

Its first meeting-place was at No. 520 Walnut street, which remained the home of the society for more than twenty years. With the advent of the gelatine dry plate the membership increased rapidly, making it necessary for the society to seek larger quarters from time to time. The society finally settled at No. 10 South 18th street, which place it occupied for a number of years. The accommodations here becoming inadequate, a movement was started in the society to secure a home of its own. This movement culminated in the purchase of the four-story building, No. 1722 Arch street, which the society now occupies, having taken possession in April last.

The building was renovated and altered for photographic purposes. It contains parlor and reading-room, with an excellent technical library — unequaled in photographic institutions — a large meeting-room, with the walls arranged for photographic displays; also sitting and smoking rooms. The third floor is given over to work-rooms, being provided with all necessary appliances for photographic work. On the fourth floor is a large studio with a modern, single-slant skylight of approved construction. The studio contains all apparatus for modern portrait work, making the building one of the best equipped of its kind.

In 1898, in conjunction with the Pennsylvania Academy of Fine Arts, the society held the First Photographic Salon, this being the first exhibition devoted to pictorial photography in the country, and the first public expression of the movement which has done so much to elevate photography to a position among the fine arts.

Among its members are many of the advanced workers in pictorial photography, both amateur and professional, whose reputation is established both here and abroad, and whose work is well known in every Salon Exhibition, wherever held.

No association can make a better showing in its technical work, the leading exponents of this branch of photography having associated themselves with the society from its beginning.

The journal of the society, published periodically, has a wide circulation, not only in this country, but in foreign countries as well, and is an efficient means of keeping the society in touch with the photographic world.

The Photographic Society of Philadelphia enjoys a position as a leader in photographic art, the work of the members in all branches of photography showing a distinct advance from year to year, and the members are to be congratulated upon the fact that the reputation of the Society for artistic and technical excellence is world-wide.

Development for Advanced Amateurs

A. K. BOURSAULT

MUCH as has been written by qualified writers on this hackneyed and much-abused topic, little actual good has resulted therefrom. Many a serious worker who does not possess the time necessary to study, on his own account, all the prolific literature published yearly on that subject, finds himself hopelessly lost in the midst of innumerable friendly advices, hints, pointers, and suggestions, like a ship without a compass on the open sea. Having made a conscientious survey of the wide field before us, we will endeavor to give to the amateur — and particularly to him who aims toward pictorial achievement — some definite idea as to the present state of the knowledge on the subject, as derived from the latest conclusions of scientific research, and as set forth by scientific authorities and leading practical workers. Keeping in mind the special requirements of the pictorialist, we shall try to determine what agents and methods will enable him to get the best results under all circumstances likely to arise.

First of all, and by way of parenthesis, let us caution the reader, and especially the younger worker, against that misleading fallacy, the "technically perfect negative." Let him keep well in mind that the negative is but the means to an end, and that the print, *the finished picture*, is the goal he is striving for. To him the perfect negative is *that* only that will enable him to register truly in his print his artistic feelings and emotions, and to bestow on it the pictorial qualities he is aiming at. These will be varied, and very much so. His technique must be able to face the most diverse conditions and to meet readily the demands of his inspiration. So also must be his tools, eminently flexible and adaptable to his ever-changing requirements. We come thus — bearing now more directly on our subject — to the consideration of such developers and methods of development as will best fit these and allow him to obtain with most ease and certainty this protean negative that his needs demand.

Developers are often referred to in this country as soft working and hard working. To this rather empiric division we would much prefer the German classification and terminology, to wit, the *Rapid-Entwickler* and the *Abstimmbaren Entwickler*, which, translated into English, could be rendered as "fast developers" and "controllable," or (if I may coin a word) "compensable developers." This classification is founded on the characteristic of certain developers to bring up the surface image in its entirety long before sufficient density is attained, whereas others yield progressively the details, step by step, so to say, as the process of development advances, full density often being obtained before all the shadow details are entirely out. The latter class is generally very sensitive to the action of all physical and chemical restrainers while the former is not.

This does not mean, however, that the "rapid" or "fast" developers are not controllable also, but merely that they cannot be controlled to the same extent. On the other hand, the remarkable power they offer us to bring out from the beginning of development all of the surface image renders them invaluable for the obtention of soft effects, the minimizing of violent contrasts, and the development of voluntary or accidental underexposures.

Another point which must not be forgotten is that the character of the resulting image will also depend greatly on the correct adjustment of the exposure to the developer used. Thus a negative to be developed with iron oxalate will require about three times more exposure than one to be developed with metol-soda, if results at all comparable are to be obtained. It must be remembered, therefore, when a new developing agent has to be tested, that the exposure must be adapted to it. Without this precaution unreliable results are obtained and there is great danger of misjudging the developer.

But even when the exposure is correctly adjusted to the developing agent the *Rapid developers*— like amidol, edinol, metol, paramidophenol (rodinal), etc. — will yield an image of slightly different character from that of the slow-working reducers. The gradation of the negative is not the same. This difference, however, is hardly noticeable, and can only be detected by well-conducted experiments, and not by superficial examination, or even fairly close scrutiny. On the other hand we will perceive that by a judicious use of these two classes of reagents, the most varied results may be attained; softness and long scale of gradation on the one hand, vigor, contrast, even hardness, on the other.

From these various considerations a very simple method of development suggests itself to us. Whenever we need softness, flattening of contrasts, plenty of shadow details, with rather short exposures, we might use a "soft" working rapid-developer, when with ease and certainty we shall get the results we want. If, on the contrary, we are dealing with line subjects, reproductions, or overexposures, etc., we might employ one of the "controllable" developers, being thus enabled to secure all the contrast wanted, and, in the latter case, to compensate readily errors amounting to as high as one hundred times the normal. Experience justifies this method which is correct both from the scientific and the practical standpoint.

Having determined thus far that this method is essentially logical, convenient, and time-saving, we come to the conclusion that by keeping at hand a solution of some rapid developer and one of some slow-working agent, we shall be in position to meet all eventualities.

Further, it will soon be realized that the amateur of some experience seldom falls into so considerable an error of exposure as to lead him beyond the amount of control that the developers of the rapid class are capable of correcting. If he errs at all it is likely to be on the side of underexposure. Also, more often than not he will have to deal with subjects requiring delicate rendering of the half-tones, or softening of great contrasts between light and shade. He will, therefore, be justified in adopting for all-round work one of the fast developers as better fitted to his general needs. Another advantage not to be overlooked is that such a developer will give him the opportunity to judge from the very beginning of development whether he has obtained the desired effect and whether his plate is worth developing at all. He will thus reserve the use of his slow-working developer for reproduction work, transparencies, lantern slides, etc., and for occasions where it is impossible for him to determine what kind of exposure he has on his plate. In the latter case it is a good plan to start development with, say, hydrochinon, and if the plate be found overexposed, to continue development in the same solution suitably restrained; if correctly or underexposed, to transfer immediately to the normal rapid-developer and finish in it.

Here a new question confronts us, to wit, the choice of the developer. They are legion. Mentioning only those that are the most popular we have amidol, edinol, eikonogen, metol, paramidophenol (rodinal), in the rapid category; iron oxalate, pyro, hydrochinon, glycin, adurol, pyrocatechin, in the slow class. Which shall it be? All are good, and the choice must be based on

serious consideration. The remarkable studies made on this subject during the last two or three years, by such men as Baron von Hübl, Eder, Valenta, Miethe, and Lüppo-Cramer, will help us greatly, however, to make a judicious selection. Among the slow-working developers our choice will be limited to hydrochinon, pyrocatechin, and glycin, these among all giving, as determined by the most careful experiments, the greatest latitude in development. Hydrochinon, though, being by far the cheapest (because not patented), having the further advantage of yielding readily a maximum of density, and being admirably fitted for the production by direct development of colored tones in lantern slides and bromide papers, should be, without hesitation, our selection in the slow class.

Amongst the rapid developers the choice is more embarrassing. It is generally admitted, however, that metol is the most rapid and the most powerful of all developers. Compared with either edinol or rodinal, metol yields more density and does it more rapidly than either. It will give in the shortest time the longest scale of gradation. Its keeping power in solution, and especially in diluted solution, is superior even to that of rodinal. It is adjustable to all kinds and brands of plates, and adaptable to all kinds of work. Negatives developed with it are easily intensified and reduced. In that particular it is again slightly superior to paramidophenol (rodinal), which does not give satisfactory results with the ammonium persulphate reducer. The tone of the silver deposit is a beautiful pure black, and the resulting negative prints as rapidly and as well as it looks, and is eminently suited for enlarging. Any amount of softness or contrast can be readily obtained with it. For all these advantages, which can be found to the same extent in no other agent, we may safely choose metol as our normal all-round developer of the first class. Thus, with metol on the one hand, hydrochinon on the other, either pictorialists or scientific amateurs will be able to meet successfully any and all their requirements.

It is not our intention to spend much time on formulas. We shall give two, however, which are used at the k. k. Lehr- and Versuchsanstalt für Photographie, at Vienna, and at the Polytechnicum at Berlin, and which will give admirable results :

METOL

A. Water, boiled or distilled, 10 ounces or 1,000 cc
Anhydrous sodium sulphite, 250 grains or 50 grams
Metol . . . . 50 grains or 10 grams

B. Water, boiled or distilled, 10 ounces or 1,000 cc
Potassium carbonate, C. P., 1 ounce or 100 grams

NORMAL DEVELOPER

3 parts of A + 1 part of B.

FOR OVEREXPOSURE

3 parts of A, 1 part of B, 4 parts water, 10–60 minims of a solution of potassium bromide 1 : 10.

FOR VERY SOFT EFFECTS

3 parts of A + ½ part of B + 1 part of water.
Bromide of potassium solution 1 : 10 as required.

Instead of the potash solution carbonate of soda may be used thus :

C. Water, boiled or distilled . 10 ounces or 1,000 cc
Sodium carbonate crystals . 1 ounce or 100 grams

NORMAL DEVELOPER

Equal parts of A and C.
Bromide of potassium solution 1 : 10 as required.

The *single solution* developer, the formula of which comes with every bottle of metol, is also excellent. By using two single solutions, one of metol, the other of hydrochinon, the laboratory paraphernalia are reduced to their minimum. But we prefer the two-solution system. It gives more latitude and the solutions keep considerably longer. In using metol three points should never be forgotten : (1) That bromide of pottassium has a very much greater clearing than retarding action, and that when used as retarder it must be added *liberally* to the developer.

For well-exposed portrait negatives, for instance, an excellent formula is the following :

A, 3 parts ; B, 1 part,
Potassium bromide solution 1 : 10, 30-40 minims per ounce of mixed developer.

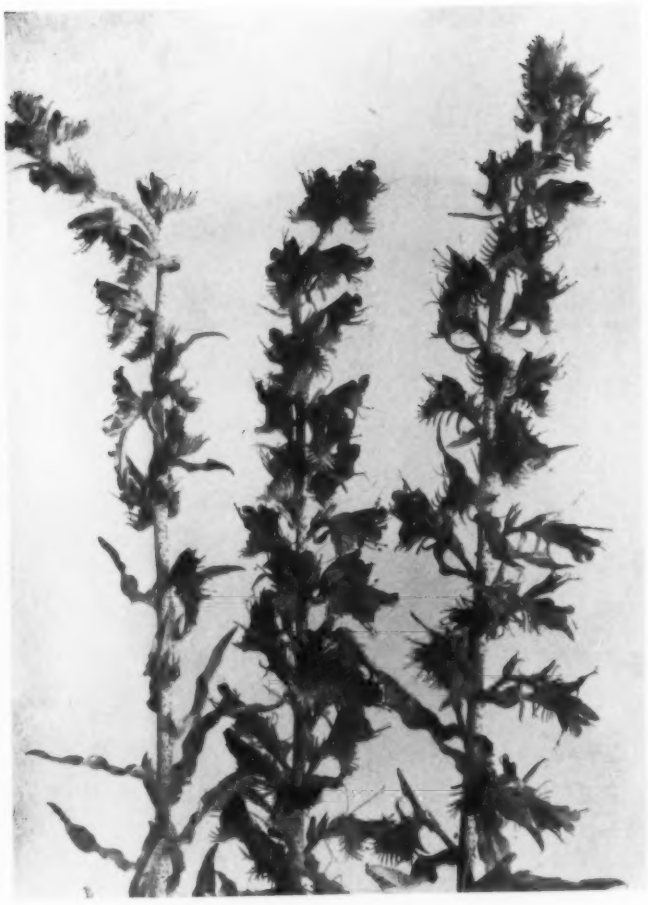
(2) That the more alkali is added to the developer the faster it will work, the more rapidly it will yield density, and the more contrasty will be the resulting negative.

(3) That there is no advantage gained in diluting beyond measure a metol developer. Softness will be better attained by the reduc-

PORTRAIT
BY KUEBLER

PHOTO ERA

A WEE CUP OF TEA
BY WM SHEWELL ELLIS



VIPER'S BUGLOSS
BY HENRY TROTH

PHOTO ERA

PORTRAIT
BY BOYD C BARRINGTON

PHOTO ERA

tion of the amount of alkali than by the addition of more water. The normal developer might be diluted with its own volume of water, but not more.

HYDROCHINON

A.	Water, boiled or distilled,	10 ounces or 1,000 cc
	Anhydrous sodium sulphite,	240 grains or 50 grams
	Hydrochinon . .	70 grains or 14 grams
B.	Same as B above.	

NORMAL DEVELOPER

Equal parts of A and B.

Solution of bromide of potassium 1 : 10, as required.

As we write for the advanced worker further details seem superfluous, and he will readily adjust these formulas to his particular requirements. Besides, we shall always be glad to answer all demands for information which might reach us through this paper.

Before leaving this subject, however, we would like to urge our patient reader, should he be willing to give a trial to this system of development :

(1) Never to *mix* both developers. He would lose thus most of their individual qualities, without any redeeming feature.

(2) Not to judge this method before having become thoroughly familiar with it, as it cannot be mastered short of a few months of earnest trial.

(3) Not to be deterred from trying it for fear of metol poisoning. While there *is* such a thing, there is considerable exaggeration as to its frequency, and we know personally of many so-called cases of poisoning that have never been attributable to metol, and, indeed, were not cases of poisoning at all. We may add that if cleanliness be present in the dark room, as it should be, the hands well washed after development (and, for susceptible skins, rinsed before wiping in a solution of salt water), no harm will result from its use. Besides, in case of extreme susceptibility to metol, the use of rubber finger-tips will provide against all further troubles.

We trust that the reader who will give this method a practical trial will find in it the surest, simplest, and most perfect means of obtaining the various effects his fancy or his needs may dictate. And if these few considerations, for which we lay no claim to originality, contribute to help him, be it ever so little, in the technique of his work we shall feel amply justified for having written them.

Amateur Photography in Philadelphia

DANIEL BAKER, OF COLUMBIA PHOTOGRAPHIC SOCIETY

SINCE the very beginning of photography there have been amateurs, and some of the very earliest amateurs and experimenters in the art and science of making light pictures were Philadelphians. I believe it was Professor Draper who made the first portrait by the daguerreotype process, some fifty years ago, and there are quite a few of the older amateurs of the city who remember the enthusiasts of the wet-plate days of photography. But the coming of the dry plate and film and the small and handy camera was the beginning of the enrolment of the great army of dabblers in the black art from which our true amateurs of the present day are recruited.

Perhaps it ought to be made plain what the writer means by "amateur." The dictionary says one who practises an art for the love of it, and not for mercantile or financial purposes; and this is held by some to exclude all from the ranks of amateurs who ever part with their negatives or pictures for money considerations. This is rather too strict an interpretation, and the writer would divide the photographers of the City of Brotherly Love into four classes, viz.: Dabblers, experimentalists, amateurs, and professionals. With the first two classes we need have nothing to do, because they either soon become attached to the other classes, or quit.

The amateur — that is, the true amateur —

becomes more and more fascinated with his art, and improves his work, until to-day our exhibitions show that he is really leading his professional brother in the production of new ideas, and fully equaling him in technical quality. His pictures are in demand because of their excellence, and he may sell a few — because he cannot afford to give them away — without detracting from his standing as an amateur photographer.

The Philadelphia amateur seems more prone to forming associations for mutual improvement than he does in many other cities, hence we have several strong photographic societies of amateurs, and a number are members of the Philadelphia Photographic Society, which is composed of some of the city's best workers.

The Columbia Photographic Society is the largest, with nearly two hundred members; many of whom are superior workers; so much so that they carried off a goodly proportion of the prizes in the last Eastman contest.

The Frankford Camera Club has a membership of about a hundred, nearly all of whom are enthusiastic workers.

The West Philadelphia Camera Club is the newest organization, and although but little over a year old, has passed the century mark in membership.

These four organizations all have their own homes, with studios and equipments for various kinds of work, and are growing in quality as well as numbers.

Besides these there are a number of little groups of amateurs who meet weekly or monthly in each other's homes and have demonstrations and lantern exhibitions. Thus, you see, Philadelphia holds a high place in "Amateur Photographdom," and it is not strange that there is seldom an exhibition or salon where it is not represented, generally among the prize-winners.

Prominent among Philadelphia workers are Mr. Wm. E. Motteram, Mr. John Dohnan, Mr. Wm. T. Innes, Mr. Lee Gans, Mr. W. Wanner, Dr. G. J. R. Miller, Mr. H. E. Cassel, Mr. R. J. Hillier, Mr. W. W. Chambers, and Mr. Wm. Thomas.

Almost every exhibition brings to the front several new men whose work is meritorious or who show great promise, and that is saying a great deal; for this city, being the home of the technical art education, our standard is set high and our committees of selection are quite critical in their judgment upon pictures offered for exhibit.

Of course, the ranks of the professionals are largely recruited from the amateurs, and every once in a while our best men step over the line; and while art is no poorer, the ranks of amateurdom are depleted and room is left for the aspiring new-comer.

The craze for camera carrying may be over; but, judged by results, there is more picture making done by Philadelphia amateur photographers than when every man, woman, and child seemed to be carrying a little black box. Our societies are all prosperous and membership is increasing, and there is talk of at least two more being formed this winter in sections of the city where the house to house meeting has been popular.

Philadelphia is certainly a photographic city, and why should it not be, with our wealth of historic relics and landmarks, our beautiful park with its natural scenery, and our facilities for quickly reaching some of Nature's beauty spots along the Schuylkill, the Upper Delaware, and their tributaries, or Old Ocean, ever changing, yet always the same!

All amateur photographers are welcome in Philadelphia photographic societies as they pass through on their travels, most of them making special provisions for visitors from out of town.

Some day we may again have a Philadelphia Photographic Salon that will be representative of our beloved art — art with a big A — and not devoted to one side of it only. You know the old saying, "Life is short; art is long": it applies to photography. We amateurs have not exhausted its possibilities, and never will. We will do better work as we get better command of our tools, and surprise ourselves, but there will always be new heights to climb.

Printing on Development Paper

P. M. RILEY

MOST development printing papers are made in both "regular" and "special" varieties, so that the proper amount of contrast may be secured from almost any negative. Some papers, however, are not so manufactured, and, as the worker oftentimes does not have more than one variety at hand, I was tempted to write a few words about other methods of controlling contrast.

Instruction books generally advise you to measure your negative from corner to corner, diagonally, and make that the printing distance for that negative. There is a good reason for choosing this as a standard distance. For illustration, suppose we must expose a 3½ x 3½ negative at five inches to get a satisfactory print. A calculation will show that this cannot be safely done with a negative of 5 x 7 or over. The center of the negative is five inches from the light, while the edges are six inches from it. Now, the intensity of illumination varies inversely as the square of the distance from the source of light, or, in other words, the intensity of light at the edges is only 25 / 36 of that at the center. A stronger light at a greater distance will, in a large measure, prevent this falling off at the corners. If we place the negative at nine inches from the light, the difference in intensity is quite a little reduced, and appears as 81 to 92. This difference is hardly noticeable in the prints, but it would be better to have it less. It will be seen that a distance less than the base line of the negative would be unsafe. In my own work I use a standard distance, somewhat longer than the diagonal, as it gives opportunity to halve distances to overcome contrast, of which I shall speak later. I make my first test with negatives up to 5 x 7 at twelve inches. For ordinary negatives this distance is generally correct, but negatives vary, and this rule will not always serve us well. It is not wise to use only one printing distance and consider all negatives worthless that do not print out properly at such a distance.

Most of us know that a weak light increases contrasts, and that an intense light lessens them. The law for intensities, already quoted in this article, shows that the intensity of light may be varied by changing the distance between the negative and the light. The effect of this change may be readily seen by holding a landscape negative about six inches from a light, and then five feet. When near the light the sky is translucent, and the foliage clear glass, but increasing the distance to five feet renders the sky opaque, while the clear glass remains the same. The contrast has been increased. This rule holds true for small variations in distance, and through all gradations of the negative. A careful use of this principle will enable us to make equally good prints from a great variety of negatives.

Dense, harsh, or contrasty negatives will give softer prints if exposed very near the light, as the dense high-lights will be penetrated by the intensity of the light, while the shadows will receive no more light than if exposed a proportionate time at a greater distance.

A flat, thin negative should be printed at a considerable distance from the light, so as to increase its printing density and contrast.

It should be remembered, of course, that the printing time varies with the distance from the light, but this is easily determined by applying the law for intensities. Thus, if the distance is doubled, the exposure will be four times as great; if the distance is increased three times, the exposure will be nine times as great. Suppose a negative is printed ten seconds at six inches from the light, and it is desired to change the distance to fourteen inches. The proportionate exposure will appear as 36 to 196 (or reducing 9 to 49). In other words, the exposure at fourteen inches will be 49 / 9 x 10 = 54 seconds. While a calculation can be easily made for each change, I have formulated the following table, which I find very useful in my own work. The table is easily understood. Thus, if at 12 inches a negative requires 30 seconds, looking

to the right of 30 in the 12-inch column, we find that it requires 47 seconds at 15 inches, and so on.

It will generally be found advisable not to use exposures less than ten seconds, as a little variation in so short a time may spoil the print. Where the exposures are longer there are many ways of controlling and "dodging" the print.

This defect can be remedied in many cases by inclining the water portion toward the light. If the foliage is still too dark and lacking in detail, try another print, and this time shade that part of the negative with a piece of cardboard for about half the printing time. If the card is kept moving back and forth about a half inch, no line can be seen between the shaded and

COMPARATIVE EXPOSURES

Inches	6	9	12	15	18	21	24	27	30	36	42	48	54	60
Standard Distance, 12 Inches. Minutes and Seconds.	0—1	0—2	0—3	0—5	0—7	0—9	0—12	0—15	0—19	0—27	0—37	0—48	1—1	1—15
	0—1	0—3	0—5	0—8	0—11	0—15	0—20	0—25	0—31	0—45	1—1	1—20	1—41	2—5
	0—2	0—5	0—8	0—13	0—18	0—25	0—32	0—41	0—50	1—12	1—38	2—8	2—42	3—20
	0—2	0—6	0—10	0—16	0—23	0—31	0—40	0—51	1—3	1—30	2—3	2—40	3—22	4—10
	0—3	0—7	0—12	0—19	0—27	0—37	0—48	0—61	1—15	1—48	2—27	3—12	4—3	5—0
	0—4	0—9	0—15	0—23	0—34	0—46	1—0	1—16	1—34	2—15	3—4	4—0	5—4	6—15
	0—4	0—10	0—18	0—28	0—40	0—55	1—12	1—21	1—53	2—42	3—41	4—48	6—5	7—30
	0—5	0—11	0—20	0—31	0—45	1—1	1—20	1—41	2—5	3—0	4—5	5—20	6—45	8—20
	0—5	0—12	0—22	0—34	0—50	1—7	1—28	1—51	2—18	3—18	4—30	5—52	7—25	9—10
	0—6	0—14	0—25	0—39	0—56	1—17	1—40	2—7	2—36	3—45	5—6	6—40	8—26	10—25
	0—7	0—16	0—28	0—44	1—3	1—26	1—58	2—22	2—55	4—12	5—43	7—28	9—27	11—40
	0—7	0—17	0—30	0—47	1—8	1—32	2—0	2—32	3—8	4—30	6—8	8—0	10—8	12—30
	0—8	0—18	0—32	0—50	1—12	1—38	2—8	2—42	3—20	4—48	6—32	8—32	10—48	13—20
	0—8	0—20	0—35	0—55	1—19	1—47	2—20	2—57	3—39	5—15	7—9	9—20	11—49	14—35
	0—9	0—21	0—38	0—59	1—26	1—56	2—32	3—12	3—58	5—42	7—46	10—8	12—50	15—50
	0—10	0—23	0—40	1—3	1—30	2—3	2—40	3—23	4—10	6—0	8—10	10—40	13—30	16—40
	0—10	0—24	0—42	1—6	1—35	2—9	2—48	3—33	4—23	6—18	8—35	11—12	14—11	17—30
	0—11	0—25	0—45	1—10	1—41	2—18	3—0	3—48	4—41	6—45	9—11	12—0	15—12	18—45
	0—12	0—27	0—48	1—15	1—48	2—25	3—12	4—3	5—0	7—12	9—48	12—48	16—12	20—0
	0—12	0—28	0—50	1—18	1—53	2—33	3—20	4—13	5—13	7—30	10—13	13—20	16—53	20—50
	0—13	0—29	0—52	1—21	1—57	2—39	3—28	4—23	5—25	7—48	10—37	13—53	17—33	21—40
	0—13	0—31	0—55	1—26	2—4	2—48	3—40	4—38	5—44	8—15	11—14	14—40	18—33	22—55
	0—14	0—33	0—58	1—29	2—11	2—58	3—52	4—54	6—3	8—42	11—51	15—28	19—34	24—10
	0—15	0—34	0—60	1—34	2—15	3—4	4—0	5—4	6—15	9—0	12—15	16—0	20—15	25—0

The cloud portions of a negative are nearly always so overexposed that any detail which they may have will be lost in printing. Now, a clear white sky is an abomination, especially when, as is often the case, the negative has a good cloud effect, if it could only be brought out. The required detail can oftentimes be secured by holding the printing-frame at such an angle that the sky is much nearer the light. By inclining the frame in this way the intensity of the light can be so greatly increased on one portion of the negative that one side may receive four times as much as the other, if it is so desired.

It is not always the sky that may need this additional light. One often has negatives, such as lake views, showing a densely wooded shore, which will appear nearly black with little detail, if sufficient exposure is given for the water. unshaded parts of the print. This is a useful "dodge," and the resourceful worker can find many varied uses for it.

The method of development has a marked effect upon contrast, and gives the operator great control over his results. Contrast may be increased by giving a short exposure and developing in a very strong solution, with a few drops of bromide to clear the whites. Following out the same idea, soft effects may be secured from contrasty negatives by means of an exposure about double the normal, and the developer diluted with one half water.

While an intelligent use of the "regular" and "special" papers will help the worker out of many of his difficulties, their latitude is not always sufficient, and I have found the different methods of dodging mentioned very useful in my own work.

FAIRY STORIES
BY OLIVE M POTTS

PHOTO ERA

EVENING
BY DR GEORGE W NORRIS

PHOTO ERA

NICOLA D'ASCENZO
BY CONRAD FREDERIC HAESLER

PHOTO ERA

AFTERNOON IN THE BERKSHIRES
BY CHAS R PANCOAST

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BLUEBERRIES
BY J HORACE McFARLAND

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LAUNCHING OF THE PENNSYLVANIA
BY WILLIAM H RAU

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OFF FOR A RIDE
BY HARRIS STUDIO

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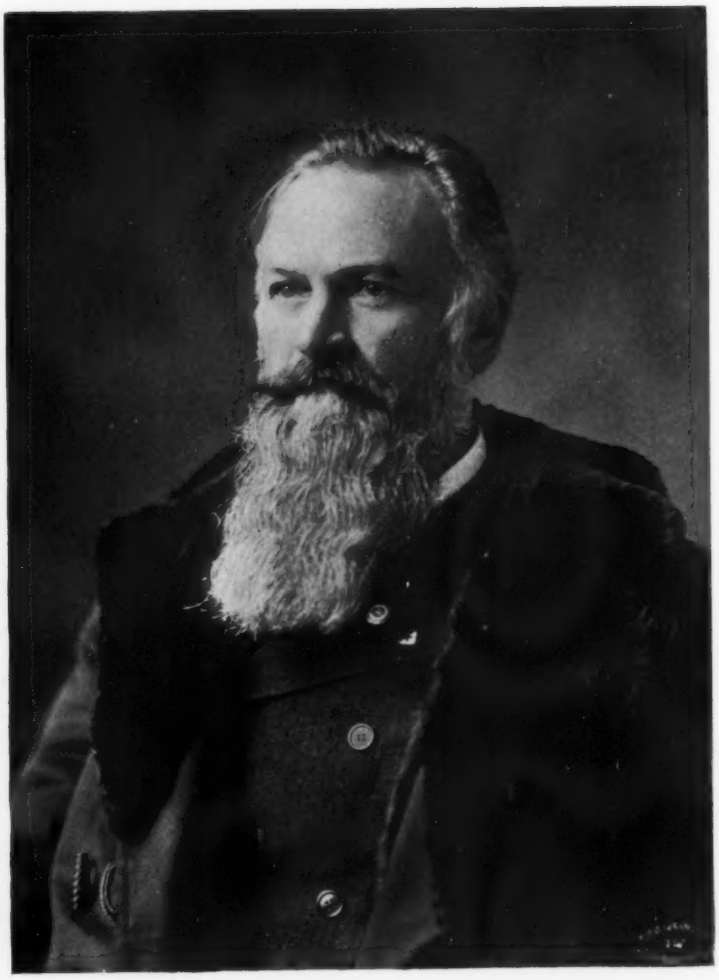

PROFESSOR A LORENZ
BY F GUTEKUNST

PHOTO ERA

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The American Journal of Photography

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Vol. XI NOVEMBER, 1903 No. 5

Now wail low winds about the forest eaves,
Now life grows cold 'neath cold and dreary skies;
And, rustling ankle deep in falling leaves,
The lone deserted wood-path blanching lies.

—GOODALE.

November One of the most distinguished of modern painters once said: "If I could only do what I like, I would paint nothing that was not the result of an impression directly received from Nature, whether in landscape or in figure." His pictures, as a result, were so genuine and real that all other kinds of art by their side seemed forced and artificial. We commend this advice to our readers as excellent. We have always insisted that the true artist will go to Nature for his inspiration.

Millet Among the modern masters there is no one whose pictures can be studied to better advantage by the photographer than those of Jean François Millet, of Barbizon, France. His art is distinctively original and unique, inasmuch as he had his own peculiar way of seeing things and of helping others to see them in the same way. It was the tender fragrance of rude, ignorant, and toil-worn lives that he sought to portray. And out of this seemingly unpromising material he has constructed pictures beautiful and impressive in the extreme. His passion was always for figure-study and expression. In it he sought neither grace nor beauty, strange to say, but only expression, which is the highest form of beauty.

Rembrandt sought expression, primarily, by cleverly lighting up the faces of his subjects, but Millet gave expression to his art through the entire body of his subjects. The expressiveness of the human form was his constant theme and the salient point in all his paintings. For this reason his pictures form an excellent guide to the photographer in the study of pose and figure composition. Millet's instinct for pose was that of a sculptor. The bold sweep of his lines and the impression of power and motion which his figures convey suggest the Sistine Chapel pictures of Michael Angelo. Indeed, there is no master, early or late, whose workmanship can be of greater help to the student of photographic art than Jean François Millet, of Barbizon.

The Salon, The Royal The English exhibitions have come and gone, and the Photo-Secession has proved itself a past master in the art of joking. After laboriously creating the impression that it was going to boycott the Royal Photographic Society's exhibition, at which its pictures have never appeared, it failed to show up at the Salon. Says *Photography:* "It is not too much to say that the Salon this year is a disappointment. . . . Not only is the bulk of the work mediocre, but there is an entire absence of the conspicuously good, and even of the conspicuously bad. . . . On looking through the list of names, the absence of nearly all those workers from abroad who helped to make former Salons notable is very marked, and when we name Mrs. Cabot, Eugene, Holland Day, Henneberg, Mrs. Käsebier, Keiley, Kuhn, Dr. Spitzer, Stieglitz, Steichen, and Clarence White, we have by no means exhausted the list."

So the Photo-Secession has boycotted not the Royal, where it never was, but the Salon, where it first learned to know itself at its true value, and whence it started on its world-conquering career. Oh, base ingratitude!

We do not see what the Photo-Secession is going to conquer next. It deserts the Linked Ring; it has killed Philadelphia; St. Louis exists not for it; it visits Chicago during good be-

havior, and Turin and San Francisco alone receive its smiles. Why is it thus coy with its favors, ever seeking new fields? The secret has been whispered to us; shall we let it out? Here it is. The Photo-Secession is a certain packing-case in a New York office. In it repose the famous prints which set the world agog a few short years ago. They are not increased, neither are they diminished. When a new city holds an important exhibition, the Photo-Secession patronizes it, and the packing-case is shipped. Perhaps it is divided, and goes in two parts, in two successive years; but then the standard of the show becomes too low and the Photo-Secession knows it no more.

The truth appears to be that the members are at the end of their ability or their enthusiasm; it is so much easier to rest on their laurels than to work hard on new pictures that, the professionals excepted, they produce little that passes their own jury, and hence do not exhibit.

American Workers Americans have shown good work in London. Alvin Langdon Coburn is, by general opinion in England, the most promising of the Americans at present. The *British Journal* says: "Among the American workers Alvin Langdon Coburn promises to be a valuable recruit. His work shows that he is possessed of imagination and is not afraid of giving it full swing, and with a better appreciation of the limitations of his medium, and greater mastery over it, he should attain high position among pictorial photographers."

Rudolf Eickemeyer, Jr., shows at both exhibits, and the decadence of the Salon is shown by the following quotation from *Photography:* "One of the most curious and tell-tale impressions we received was that the two prints by Rudolf Eickemeyer, 'Winter,' and 'A Summer Sea,' which at the Salon stood out so preeminently as naturalistic and successful, here appear little, if anything, above the average level of work."

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Another American who did well is Carl E. Semon, who received a medal for "Lassitude," "and for the pleasant breadth of style and beautiful homogeneity of this circular print, the honour is well earned."

According to one of our English contemporaries, these two exhibitions prove that "the *via media* is found in the most Salonistic works at the Royal and the most Royalistic works at the Salon, and along that path photography must go if it would grow in artistic grace and seemliness. Mrs. Barton, Mr. Eickemeyer, Miss Ellis, and all others who exhibit with equal willingness at both shows are, it must follow, if our premises are correct, those who are taking the wise course that lies between extremes, and thus doing the best service for pictorial photography."

The £1,000 Kodak Competition Elsewhere in this number we call attention to the great competition which has just been opened to American amateurs. Kodak, Limited, inaugurated this competition for foreign amateurs, and it is as a special favor to the Eastman Kodak Company that American entries are now allowed. No such generous offer of prizes has ever before been made for a photographic contest, and the honor attached to taking one of these prizes, literally from the whole world's competition, will make the struggle keen and the reward of victory well worth winning. It is due to the acknowledged superiority of American photographic art that all our amateurs should do their best work for this contest and enter it early. We appeal to our readers to do their share in thus upholding American art supremacy.

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The Work of Meredith Janvier

OSBORNE I. YELLOTT

ONE of the most hopeful signs of the elevation of professional photography along artistic lines is found in the fact that every year the profession is finding recruits from the ranks of well-educated, refined, and intelligent men and women from other walks of life.

Before its possibilities as a medium of artistic expression became so generally known, photography seemed and was, in most instances, largely a mechanical process requiring and inviting mere technical skill rather than intellectual training. The consequence was that, except in a comparatively few instances, its practice did not appeal to men and women capable by training of entering the various learned professions.

All this was changed, however, when it came to be generally understood that art training had a place in the making of portraits by photography, and it is immaterial at this time whether this change was brought about through the efforts of a few amateurs, or through the efforts of a few better workers within the profession, or whether it was simply the outcome of a gradual and natural evolution of the process. The fact remains that the public has come to appreciate and demand the application of art principles to photographic portraiture, and this demand has vastly broadened its field.

No longer can portrait photography be said to be merely a technical or mechanical process, but, on the contrary, it is gradually coming to be one of our most dignified and exacting professions, calling for intellect, refinement, and taste to a degree which few other callings demand. We have nearly all seen portrait photographs which, as works of art, can unquestionably be favorably compared with the best work of our most eminent portrait painters, and which for fidelity in drawing and likeness are far superior to nine tenths of the best work done by them. Such being the possibilities of photography, there can be no question as to the dignity and utility of the process, for the making of portraits itself has been a worthy task of man from the days of Rameses down to the present time.

To-day, by virtue of the fact that there is a demand for art in professional photography, there is a demand in the profession for the most intelligent and highly cultivated men and women in our midst. And day by day this demand is being realized and met, these recruits, on the one hand, gaining the advantages which come from their being engaged in a work which is congenial and worthy of their best efforts, and the profession, on the other hand, gaining by the infusion of new blood, new energy, new methods, and higher ideals.

Among the most recent recruits to professional photography is Meredith Janvier, of Baltimore. Mr. Janvier has within the past few months given up the practice of the law, in which he had engaged successfully for eight or nine years, and has opened a studio on Charles street, in that city, where he is already making quite a success in his new calling.

Many of my readers will, no doubt, be interested to know the degree of photographic and artistic training necessary before one can hope to enter professional photography with reasonable assurances of ultimate success, and I can in no way give them a better idea of this than by detailing to them Mr. Janvier's experience preliminary to entering the professional field.

The period of probation will certainly not seem appalling when I say that until the summer of 1900 Mr. Janvier had never had a camera in his hand. Then he borrowed a hand-camera to make a picture of his little son and was so much pleased with the success of his first efforts that he was forthwith inspired with an ardent enthusiasm for photography and everything pertaining thereto. This enthusiasm explains why he has been able to fully prepare himself for his entry into the profession within the comparatively short period of three years.

During the winter succeeding his advent in photography, he studied the photographic magazines carefully, his ambition being to hang some of his portraits in our salons. This ambition was gratified little more than a year after he made his first snap-shot, as he had one of his portrait studies hung in the Philadelphia Salon of

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1901. The next year he had a portrait in the London Salon, and next hung several pictures at Chicago, in the winter of 1902–'03.

Meanwhile, he had been carefully studying articles on art. He had always been of an artistic temperament, and the field was one which wholly delighted him. He had been a collector of rare prints and engravings, his collection of these being one of the most interesting in Baltimore. He now added to this collection photographic copies of the masterpieces in portraiture and figure work, including modern workers as well as the old masters. He has studied with great thoroughness nearly all of the better-known works on composition and higher art criticism. During the winter of 1901–'02 he took a course in figure drawing in a life class held in Baltimore, and during the winter of 1902–'03 attended a course of twenty lectures on Art Interpretation and Criticism at the Johns Hopkins University, by Prof. Alfred Vance Churchhill, director of the Department of Fine Arts for Normal Training, at Columbia University. In fact, Mr. Janvier has lost no opportunity during the past three years to thoroughly equip himself along art lines for his work.

His training in the technique of photography during the same period has been fully as thorough. While preferring platinotype as his general medium in portraiture, he is an adept in both carbon and gum-bichromate. Some of his most interesting work recently has been in platinotype from enlarged negatives, in the making of which he has become quite expert.

From the time Mr. Janvier first took up photography until the day he opened his studio and hung out his sign as a professional photographer he was engaged in a law practice requiring his constant services from nine o'clock in the morning until five o'clock in the afternoon, with only an occasional day off on Saturdays. But, dissatisfied with what was to him a prosaic business, after he had once caught a glimpse of the artistic possibilities of photography, he made up his mind to take up photography as a profession, and from that time on bent every effort to the accomplishment of that purpose.

In the spring of 1903 he made a visit to New York, where he interviewed nearly all of the well-known professional photographers with the idea of ascertaining whether artistic photography could be made to pay, and if so, along what lines. He then became convinced that he could make it pay in Baltimore if he would work along conservative lines, and thereupon determined to take the final step. There were two widely different courses open to him. He could either adopt the plan of some of the more "advanced" professionals and amateurs, — the method wherein portraiture is made largely subservient to the creation of a work of art; or he could adopt the method of the more successful New York photographers, wherein portraiture is the prime essential, and the portraitist makes his work characteristic of himself by bringing to it a full knowledge of composition and art principles in general. It did not take him long to see that the former method in a city so conservative as Baltimore would simply mean business suicide, and he therefore determined upon the latter plan. In the portraiture of men he aims at characterization rather than grotesqueness. He tabooes all freak methods of trimming and mounting, holding that if his portrait of a man isn't good enough from an artistic point of view when trimmed in the conventional way and mounted on a plain white or cream mount, it isn't good enough to give his sitter. In his portraiture of women and children he aims at a concrete interpretation of the beauty and tenderness characteristic of such subjects. He believes in picturing his women and children in the costumes of the day, not in having resort to the simpler costumes of other days for mere pictorial effect.

As to Mr. Janvier's work itself, I feel that it is too early to speak. The limitations of the camera in portrait work can only be wholly overcome by a large and varied experience, and this he has not yet had. Hence, many of his portraits so far made bear evidences of mistakes which are as thoroughly obvious to him as they can be to others, but which from sheer lack of experience he was not able to avoid in the first instance. There are reproduced herewith several of his portraits, some of which are quite recent, while some others were made more than a year ago.

DR ALFRED VANCE CHURCHILL
BY MEREDITH JANVIER

PHOTO ERA

OSBORNE I YELLOTT
BY MEREDITH JANVIER

PHOTO ERA

PORTRAIT
BY MEREDITH JANVIER

PHOTO ERA

THE SISTERS
BY MEREDITH JANVIER

PHOTO ERA

Notes on Gum-Bichromate Printing

W. W. M. M.

WHEN I first commenced the gum process I was foolish enough to lay in a stock of all manner of new *plants*, which only added to extra confusion in the bath-room, the attic, and now and again the back drawing-room, if the sun were west; and after P. O. P. toning, etc., I was informed by members of my household I was only adding insult to injury. I heeded not, but stuck to it, and on looking back I can, without being in any way presumptuous, see many pitfalls for a beginner in some of the articles already written.

The pitfalls are in no way derogatory to the author of the contributions; it is the "what comes next" that puzzles the beginner, as well as the "when shall the next come," and this part is often skipped over, so much like the dear, old 5th prop., so easy to read, so easy to grasp, yet close the book and how many of us have not wondered "what comes next." With many books on photography open we are often led to wonder "what comes next." Might I then endeavor to simplify the *first* trials for the would-be gum worker in such a manner that, after all, his sister or a friend, by borrowing a negative for a little while, *can* show a gum result — I won't say picture; that comes later on in another "next."

From your local chemist get two ounces of bichromate of potassium and two ounces of best Soudan gum. When he has given the latter to you, in a knowing way say, "It *is* the best Soudan, Mr. So-and-So?" It looks as if you knew something, and he might be keeping inferior stuff for *beginners*.

From the artists' supply store get a five-cent package of lampblack, nothing more; only treat them politely, as their profit is not much in a transaction of this magnitude.

Also get two flat paint brushes, one about one inch wide, the other about two inches wide; get the cheap ones, and as soft as you can. The better ones will do later, say, for the next Photographic Salon; we must, in gum-bichromate, walk before we run.

The marketings are all complete, and the pocket only a trifle lighter than when you started.

Now you can commence the new process, or, as I was encouragingly informed, add insult to injury; but, as in my case, go ahead, and never mind.

Put the two ounces of bichromate of potassium into one of those twenty-ounce dark-green developing bottles, and fill up with cold water, and remember bichromate is sensitive to the light when it dries.

Dissolve the gum in five to six ounces of cold water, and filter into a bottle through a fine piece of muslin. When the bichromate is all or nearly all dissolved, and the gum strained, you can commence on your first trial, which *should* give you your first print.

Take a clean piece of glass — an old negative with the film off will do — and on the middle of it pour half a teaspoonful of gum solution. On to the gum put half a teaspoonful of the lampblack. These two must now be mixed into a syrup state, and nothing has ever served me so well as an old chisel; the flat part of the edge grinds the lampblack beautifully. The mixing must be done until there is no grit heard as the chisel works backwards and forwards on the glass. As soon as the mixture is in a complete syrup state, *without any grit whatever*, pour on to the mixture a teaspoonful of the bichromate solution, and mix this well, and then another teaspoonful; mix this well. By this time the glass will have all it can hold.

Get any bit of white paper without any shine on it — the note-paper called "vellum wove" will do — and put it on a piece of blotting-paper larger than the piece you are sensitizing, and with the small brush paint the paper with the mixture. It will at once look a sort of yellow and dark brown. Now take your larger brush and gently go over the paper, taking care to do it lengthways, and then across. Lines, oh! those lines! will appear as you go one way; turn the paper, and go the other, until the paper looks much lighter and the color is even.

This, to my mind, was the most irritating part of the process; these lines will come, but a gentle, jerky movement will take them away; anyhow it can be done easily after one or two trials. Do a few sheets, and put them away to dry where no white light, grit, or fluff can get at them. You can now inform your friends you have added insult to injury, and made your own sensitized paper, and the only mess is on the glass. When the paper is *perfectly* dry, put it in the printing-frame, as you do with P. O. P., and print for about as long as you would for this latter paper (an actinometer will do later on). Take the paper out of the frame, and put it face downwards in your bath or basin, with about two inches of water beneath it all round. Then leave it; go out; go anywhere, as the temptation to see what is under that blacky brown stuff is at this point very great, and you will want to assist the pigment off, generally with a sponge; anyhow, leave the paper for some time, say twenty minutes, at the end of which time you may satisfy your curiosity; turn the paper by a corner, and the chances are you will see some of the parts of the positive. Don't begin "splashing it gently," as is so often advised at this stage; put it in face down, and leave it another twenty minutes, when you will find much more of the result is visible. Now you can just lave it very gently, and you will behold your first result. Dry it, and keep it, and write, as I did, on the back, "first result" and the date. Make that "first" as far as you are able your standard for ever afterwards, step by step. It is your best effort now; it must be your second best next time, and so on.

Let that smudgy little thing, which it must almost to a certainty be, as you only guessed at the exposure, etc., be as far as you can your actinometer for the second attempt, and let your second attempt be your actinometer for the third, etc., until the time comes when you think you must have that to me irksome light-gauge.

Here I must close, and in conclusion I hope that some latitude may be allowed me if the foregoing be read by any old "gum" workers, as, knowing the difficulties for any one commencing this most beautiful process, I have only done my humble best to assist those who are desirous of doing "gum-bichromate" work, and who in commencing their first coating, do not know "what comes next" and "when the next comes."

— *Down-Town Topics.*

Suggestions on Composition

BALANCE is of importance according to the number of units to be composed. Much greater license may be taken in settling a single figure into its picture space than when the composition involves many. In fact, the mind pays little heed to the consideration of balance until a complication of many units forces the necessity upon it. The painter who esteems lightly the subject of composition is usually found to be the painter of simple subjects — portraits and non-discursive themes; but though these may survive in antagonism to such principles, their authors are demanding more from the technical quality of their work than is in reality its mission to supply.

The first two main lines, if they touch or cross, start a composition. After that it is necessary to work upon the picture as it hangs in the balances.

RELIEF

THE popular notion concerning pictures is that they should stand out; but as has been aptly said, "they should stand in," — so stand as to keep their places within the frame and to keep the component parts in control. A single object straining itself into prominence through the great relief it exhibits is just as objectionable as the one voice in a chorus heard above the rest.

The Round Robin Guild

Specially designed for the Amateur Photographer and the Beginner

Conducted by Elizabeth Flint Wade.

(Any amateur photographer may belong by sending in his name and address)

The time of the year has come when fires are lighted on all the hearthstones and one seeks the snugness of the library, glad to forget that outside old Boreas has begun his winter reign. Possibly it is a broad statement to say that fires are lighted on the hearthstones, for the modern householder confines his fire in the cellar and sends his heat through his house in pipes instead of piling logs on the hearth and enjoying the light and the heat at one and the same time. Then, too, for logs he substitutes coal and gas, so though we lose the picturesque features of the fire we do not lose the great trees that were yearly sacrificed to the flames. There's something about a tree that makes one feel compunctions of conscience about burning it. It takes many decades for a tree to attain its growth, and when it is cut down its place cannot be filled in one generation, or in two.

It is Helen Hunt Jackson who put into poetry what many of us think when we watch the burning of the logs on the hearth:

"Oh, helpless body of hickory-tree,
What do I burn in burning thee?
Summers of sun, winters of snow,
Springs full of sap's resistless flow;
All past year's joys of garnered fruits,
All this year's purposed buds and fruits
Secrets of fields of upper air,
Secrets which stars and planets share;
Light of such smiles as broad skies fling,
Sound of such tunes as wild winds sing;
Voices which told where gay birds dwelt,
Voices which told where lovers knelt;
Oh, strong white body of hickory-tree,
How dare I burn all these, in thee?"

But winter fires are not photographs, and what do you know about lenses?

The terms which express the qualities of a lens are often so much Greek to the amateur, and especially to one who has not made a study of optics.

Definition, covering power, rapidity, rectilinearity, freedom from astigmatism, depth of focus, and angle of view are words to the uninitiated, and they are nothing more.

The knowledge of what constitutes a good lens is a very important bit of wisdom, and unless one knows this he cannot judge his instrument correctly, or understand its limitations.

Definition is that quality of a lens which enables it to condense the rays of light passing through it so as to produce a clear and sharp image. Oblique rays of light as they pass through a convex lens are bent in an opposite direction from that in which they entered it, and as the rays pass on beyond the lens they come to a focus at a point at a certain distance from it. If the focusing screen is placed at either side of the point where the rays meet, the image formed by the lens will be poorly defined, or, as the photographic term expresses it, out of focus. A lens that has not a good definition, and cannot condense the light accurately at one point cannot produce a clear image. This is because the image, instead of being formed of one point, is made up of spots of light which overlap each other, and prevent the formation of a clear image. The cheap cameras often have lenses which lack good definition, and, therefore, never produce a clear picture. The insertion of a smaller stop shuts out the light that enters at the outer edges of the lens, and helps to give a clearer definition, but a lens with good definition will give a clear image at the edge of the plate, even when the largest stop is used. It will not do this if the lens is of inferior quality.

Covering Power. The covering power of a lens is that quality which enables it to define the image sharply at the edges of the plate. If it does not do this the lens is too small for the plate which is being used. Each lens has a certain diameter inside of which good definition is obtained. If the lens just covers a plate it will not cover it with good definition if the lens is not opposite the centre of the plate. The larger the diameter covered by a lens of a certain focal length the more useful the lens, for it can then be moved up or down as circumstances require without affecting the definition.

Rapidity. This term is used to express the less or greater time required by a lens to permit the light to produce a distinct image on the sensitive plate. The speed with which a lens works depends on the glass of which it is made and the manner of its construction, and on the size of the working aperture or diaphragm which is used. The larger the diaphragm used the more light is admitted through the lens, and, therefore, the larger stop used the quicker will the lens produce the image.

Rectilinearity. A lens is said to be rectilinear when it can reproduce straight lines without curvature or distortion. A lens which is not rectilinear will reproduce a straight line with more or less of a curve when it comes near the edge of the plate. In the photographing of a building where a rectilinear lens is not used the top seems to converge, making it narrower than the base. A rapid rectilinear view lens gives surprising results. It is invaluable for instantaneous street work, where buildings are, of course, included in the angle of view. It is also an excellent lens for copying.

Freedom from Astigmatism. Astigmatism in a lens is its lack of power to bring vertical and horizontal lines

to a correct focus at one and the same time, though these lines may be on the same plane. Lenses free from astigmatism are called anastigmats. The glass used in these lenses is the Jena glass, the discovery of which practically revolutionized the making of optical glasses. Before the discovery of this glass only about a dozen varieties of optical glasses were known; now we have nearly a hundred. An anastigmatic lens possesses greater covering power and clearer definition.

Depth of Focus. The depth of focus of a lens is its power to give equally clear images of objects situated on different planes or at different distances from the camera. The depth of focus of a lens is increased by using a small stop. Small hand cameras often have lenses of great depth of focus.

The Angle of View. The angle of view of a lens is the number of degrees included within the view. The number of degrees included in the ordinary lens is sixty degrees. If eighty or more degrees are included in the view the lens is called a wide-angle lens. The angle of a lens is usually wider than the view included on the plate, and in order to take advantage of the wider angle a larger plate must be used. If one wishes a wider angle of view on the same sized plate as he is using ordinarily, he must use a shorter focus lens. A wide-angle lens has a short focus, and in order to have the objects clearly defined the stops used must be smaller than those used with a lens of medium angle. Wide-angle lenses are used for making interior views, or in taking pictures of objects which do not permit the camera to be placed at a sufficient distance from them to include them in the angle of the lens.

Equivalent Focus. The equivalent focus of a lens is the term used to describe the distance between the diaphragm opening in a double lens and the focusing glass, when the lens is focused on a distant object.

ANSWERS TO CORRESPONDENTS

Norris Browne.— Focusing glasses are made, through which the image on the ground glass is seen true to nature, instead of being reversed. Such a glass is called an anascope.

H. H. E. To clean a lens breathe on the surface to moisten it a little, and polish with an old silk handkerchief. If this does not remove spots from the lens, drop alcohol on the lens, and rub off very quickly. Lenses should be protected with chamois when not in use. A hand-camera should always be kept closed when not in use.

Jessie Hearn. — A paste called "Anti-Halo" is sold for backing plates to avoid fog or halation. Backing plates is a very unpleasant process, and is not so much a preventive of fog as one is led to expect. In places where windows are included, it is wiser to use the non-halation plates, which are coated specially for avoiding the fog or halation.

Henry M.— Bromide of ammonium is a salt formed by neutralizing hydrobromic acid by ammonia or ammonium carbonate. It is very useful in some processes of photographic work. It gives great sensitiveness to gelatin and collodion emulsions; combined with pyro for a developer, it prevents chemical fog, and is employed in the preparation of sensitive papers.

S. S. Willis. — The figure studies which you enclose for criticism show a good idea of posing, but in each picture you have introduced, or have not eliminated, objects which spoil the artistic merits of your picture. Do not try for stagey poses. The more unaffected the pose, and the simpler the gown, the more artistic will be your picture. Study examples of good portraiture, and profit by the lessons they will teach.

Alice G. F.—To remove pyro stains from the hands make a ten per cent solution of oxalic acid; add an ounce of this solution to twenty ounces of water and use it for washing the hands. The hands should be well washed after the application of the oxalic solution, as this is poisonous if taken internally.

G. T. A.—Peroxide of hydrogen is a hypo eliminator, but its use tends to destroy the delicate detail in the negative. Plates that are well fixed and washed will not retain any trace of hypo.

Frank Hills.—It is much cheaper to buy the different ingredients and prepare one's own developers and toning solutions than it is to buy them ready prepared. From principle we must refrain from giving any formula for flash-light powders. The ingredients are so dangerous that it is much wiser to buy either powders, cartridges, or flash-light sheets ready prepared than to undertake their manufacture. The difference in expense is too small to warrant the risk.

Graham L. — Powdered pumice-stone rubbed over the surface of a negative will give tooth enough for retouching. If the pumice-stone is not ground very fine it will scratch the negative. Powdered resin also is used for roughening the surface of the negative for retouching.

Otto Peetz. — You have been enrolled as a member of the Round Robin Guild, and membership card has been sent you. Can you not join the Historic Picture Guild also, and send pictures of places of historic interest in your locality?

A SCHOOLBOY
BY MATHILDE WEIL

PHOTO ERA

PORTRAIT
BY C M GILBERT

PHOTO ERA

PORTRAIT
BY HAMSON KRIPS

PHOTO ERA

MARGARET
BY P W PHILLIPS

PHOTO ERA

THE BRIDGE
BY THOMAS MANLY

PHOTO ERA